FURTHER NOTES ON SOME SPECIES OF CERAMBYCIDÆ (COL.) FROM THE SOUTHERN PORTION OF VANCOUVER ISLAND, B. C., WITH DESCRIPTIONS OF SOME NEW VARIETIES

BY G. A. HARDY AND W. H. A. PREECE

In a previous paper published in this quarterly,[1] the habits of certain Cerambycids indigenous to Vancouver Island were discussed, and the following notes may be regarded as a continuation of that paper.

A little serious systematic work has been done with regard to the local species, and in consequence it has been found that there are a number of well-defined forms existent here which appear deserving of names. Several of these forms are described in the following notes.

Prionus californicus Mots.

It may be of interest to record the possible fecundity of this species. A female distended with ovæ was dissected and ascertained to contain approximately 1200. If this is the normal condition, and all are fertile, there must be a heavy mortality or an efficient parasite attendant, otherwise we should expect them to be much more common than seems to be the case.

The larvæ have occasionally been found in the base of fence posts, of balsam fir, below the surface of the ground, and in one case they were taken in the wood of a section of balsam (*Abies grandis* Lindl.), also below ground. When full-fed they appear to take to wandering about prior to pupation. A pupa was dug up in a garden in July, about three inches below the surface and at some distance from any wood or root.

Tetropium velutinum Lec.

Definite data regarding a host tree has been obtained. A specimen was taken at the exit of its burrow, from which it was just emerging, in a stump of Douglas fir (*Pseudotsuga mucronata* Raf.) by A. Nicholls, Tod Inlet, May 20, 1926.

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1 Pan-Pacific Entomologist, Vol. III, p. 34.

EUMICHTHUS ŒDIPUS Lec.

Eumichthus œdipus ater Hardy and Preece, var. nov.

Eumichthus œdipus ruber Hardy and Preece, var. nov.

As the name implies, var. *ater* is a melanotic form of this species, having the entire prothorax and basal area of the elytra black or nigro-piceous, but very typical in all other respects. A series of five specimens all taken at **Sidney, B. C.,** by W. H. A. Preece, the type ♂, June 18, 1926, the paratypes all ♀, June 5 to 22, 1926, respectively.

Type in collection of Mr. Preece.

Var. *ruber* may be regarded as an albinistic form, the antennæ, legs, entire prothorax and basal area of the elytra rufous, the median and basal areas of the elytra piceous with fasciæ as in the typical form.

Type a unique ♂ taken at **Sidney, B. C.,** June 23, 1926, by W. H. A. Preece, in collection of Mr. Preece.

In a series of nearly ninety specimens collected at Sidney, B. C., between June 5 and 23, 1926, the bulk conformed to type, and, with the exception of the six specimens constituting the two above-described varieties, showed scarcely any variation, certainly none that could be considered as forming any annectant links between the species and the varieties.

It seems probable that these two varieties represent the limit the species is likely to reach in the directions of melanism and albinism alike.

Although this species, which was originally described from Vancouver Island, has a wide distribution, having been taken at Skidegate, Q. C. I. (Hopping) and Humboldt County, California (Van Dyke), it does not appear ever to have been previously taken in anything approaching series. Incidentally it may be stated that until this year no Vancouver Island record is known since the beginning of the century.

From the observed habits of the species it is considered that its scarcity may be more apparent than real. In the first place it is extremely local; the whole series was taken on a patch of ground less than half an acre in extent, and no others were taken either in the immediate vicinity or elsewhere on Vancouver Island, though careful search was prosecuted in many other localities where similar conditions prevailed. In the second place the habits of this beetle are peculiar and render it

liable to be overlooked by anyone not familiar with its behavior. Every specimen was taken from a flower head of *Spiræa discolor* Pursh, nearly all of them being in, rather than on, the flower head, which necessitated very careful search, since the beetle was frequently invisible until the flower head was opened up. Even when visible, careful scrutiny was necessary, as it was frequently associated with several species of ants, to some of which it bore a close superficial resemblance, and crawled around the flower heads in much the same manner. Though exceedingly active this little longhorn exhibits a marked disinclination to take flight; when interfered with it drops to the lower foliage and after a few moments climbs back up the branches to the flower head.

Strangalia obliterata (Hald.)

This species has been discovered boring in dead balsam (*Abies grandis* Lindl.). Several imagines and pupæ were taken from the wood in the latter part of June.

The larvæ, at any rate in the latter part of their existence, feed in the heartwood, galleries parallel to the grain being excavated to the depth of an inch or slightly more. In every case examined the larva had pupated at the top of a gallery without making any visible pupal cell, or provision for the egress of the imago, which presumably has to gnaw its own way out.

The dead balsam stump in which most of the above observations were made also harbored a number of specimens of *Ulochætes leoninus* Lec.

Strangalia obliterata (Hald.) if not actually the most abundant local Cerambycid is certainly the species most in evidence during the summer months. In early summer it frequents the flowers of *Spiræa discolor* Pursh and later can be found flying in the sunshine in any open space.

Leptura matthewsi Lec.

Remains of this species were taken at exit of burrow in stump of cedar (*Thuja plicata* Don.). The larvæ work in the heartwood boring partially through the bark, the adult completing the exit. The pupal cell was close to the bark, at an approximate angle of 45 degrees to the grain of the wood. The exit holes of several specimens were evident about one foot

from the ground; the young larvæ would appear to feed close to the root; the final portion of burrow was in the heartwood, approximately one inch below the surface, and ascending from the base of the stump.

PHYMATODES ÆNEUS Lec.

Several specimens have been taken from caged Douglas fir, (*Pseudotsuga mucronata* Raf.). A number have also been obtained running among the branches of Douglas fir slash.

PHYMATODES VULNERATUS Lec. and

Phymatodes vulneratus nigrescens Hardy and Preece var. nov.

The variety *nigrescens* differs from the typical form by the elytra being uniformly nigro-piceous with the exception of the fasciæ, and the femora being nigro-piceous instead of castaneous.

Type ♂, taken at **Sidney, B. C.,** May 12, 1926, by W. H. A. Preece, in his collection. *Paratypes* 4 ♂, 5 ♀, taken at Sidney, April 26 to May 23, 1926, by W. H. A. Preece.

A series of some forty specimens taken at Sidney, B. C., between April 13 and May 23, 1926, showed the species and varieties to be present in equal numbers. Representatives of species and variety were several times taken in coitu.

In a previous paper to which allusion has already been made, brief mention was made of the habits of this species. It was therein stated that only one burrow was found leading to or from the pupal cell; this statement it is necessary to qualify, for such is the case only when the species bores in branches of considerable size. When branches of a diameter of one to one and a half inches are infested, it has been found that the larva when ready to pupate bores down through the heartwood to the pith, where it forms a pupal cell by removing sufficient pith, and then bores again to the inside of the bark from the end of the pupal cell opposite that by which it entered, the two burrows and cell constituting three sides of a rectangle. As can readily be imagined this practice seriously weakens the branch. On several occasions after high winds, green and healthy-looking boughs were found on the ground which had broken off at spots thus weakened, the pupal cell showing at the break.

This species has been found infesting both local maples, *Acer macrophyllum* Pursh and *Acer glabrum* Torr.

PHYMATODES DECUSSATUS Lec. and
PHYMATODES DECUSSATUS OBLIQUUS Csy.

Phymatodes decussatus latifasciatus Hardy and Preece, var. nov.

Form of variety *latifasciatus* in every respect as in the species, thorax and base of elytra either piceous or fuscous. The anterior and posterior fasciæ coalesced to form a broad white band, sutural line black, broader posteriorly, elytral apices black. In the black phase the anterior margin of fascia is narrowly edged with rufous. Sometimes the fusion of fasciæ is not so complete, resulting in a wider sutural line medially and a longitudinal fuscous streak near lateral margin of fasciæ.

Described from six males and one female, six of the black form including the type, one of the rufous phase.

Type, **Mount Tolmie, V. I.,** 12. V. 26, in the collection of Mr. Hardy. *Paratypes,* Uplands, V. I., 20. V. 26; Mount Tolmie, V. I., 8. V. 26; 12. V. 26; 14. VI. 26; 3. VII. 26; 5. VII. 26. From Garry oak (*Quercus garryana*). All taken by G. A. Hardy.

The species and variety *obliquus* Csy. were seen in large numbers on dead Garry oak trees at the above mentioned localities, the following notes appertaining to Mount Tolmie. Adults were first abroad on April 8, thence increasing until the zenith was reached during the middle of May, when many hundreds must have emerged; throughout June their numbers continued unabated; during the early part of July they declined rapidly, until on July 13 only two individuals were seen.

At the height of their activity they were literally swarming all over the trees in question, strongly suggesting ants by their activity and superficial appearance. They were emerging from every part of the tree, the faint rasping of the jaws of the adults as they gnawed their way to freedom being distinctly audible. Flight was rarely indulged in, and then only on very hot days, a slight buzzing sound was emitted when so engaged; they move quickly but with little control over direction, and alight abruptly.

It was estimated that from 75 per cent to 90 per cent were of the variety *obliquus,* the males predominating by approximately 20 per cent. Every combination of color and markings in the species and varieties were observed in coitu.

The life-cycle appears to occupy one year. Boughs of Garry oak known to have been freshly cut in the spring of 1925 were closely watched throughout the season; half-grown larvæ were seen under the bark in November. Full-grown larvæ were found on February 13, 1926, with many in the pupal cells; no pupæ were noted before April 5, from which fact the pupal stage would not seem to be of long duration. Many larvæ pupate at the end of the gallery between the bark and wood, not boring into the heartwood for the purpose as is commonly the case.[2]

A large Clerid, *Charessa elegans* Horn, was observed demolishing a specimen of this species; as several of the former were observed from time to time, they may be an important auxiliary in checking an even greater increase of the Phymatodes than was the case this season.

Possibly the mild and comparatively dry preceding winter is responsible for the large numbers observed, by reducing the liability to mould and other diseases, a factor of some importance affecting wood-boring insects.

Neoclytus conjunctus Lec.

In the paper already referred to, a note was included dealing with the habits of this species as a borer in Garry oak (*Quercus garryana* Dougl.). The following observations are concerned with it as a borer in madrone (*Arbutus menziesii* Pursh.).

On May 14, 15, and 16, 1925, a number of females were taken ovipositing on recently felled madrone logs, diameter three to six inches. Freshly emerged imagines and pupæ were removed from pupal cells in these logs in the middle of October, 1926. Had these adults been left undisturbed, they would have emerged from the logs in April or May, 1927. This two-year life cycle had been strongly suspected, but previously definite proof had been lacking.

The Arbutus logs were sawn into convenient length and kept under observation. From time to time a length was cut up and examined.

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2 For further detail see Pan-Pacific Entomologist, Vol. III, p. 38.

The ovæ are deposited in small batches in flaws in the bark and for the first few weeks after hatching the larvæ feed side by side in the sapwood. On entering the heartwood this regimental existence is terminated, though the larvæ continue to bore in close proximity to one another, literally honey-combing the heartwood with their galleries to a depth of some two inches. The larvæ appeared to be practically full grown at the end of the first summer. During the winter they were exceedingly sluggish and seemed to suspend all activities. During the second summer they continued to feed until the latter part of September, when pupation took place. The duration of the pupal stage being brief, varying from two to four weeks, the imagines emerging from the pupæ from the middle of October onward.

A comparison of larvæ when about to pupate and at the end of the first summer shows so little difference between the two that it is considered probable that the species finds a one-year life cycle adequate in the more southerly part of its range.

Full-fed dormant larvæ have also been taken in dead branches of Garry oak (*Quercus garryana* Dougl.) during the spring and summer of 1926. Adults were found in the same wood along with the larvæ in April and May, but later only larvæ occurred. An examination of branches again in October resulted in the finding of recently formed adults which will normally appear in the spring of 1927.

Capsus externus H. S.

In *Entomological News* for October, 1926, Dr. H. H. Knight records the supposed "rediscovery" of *Capsus externus* H. S. He had apparently overlooked the fact that Dr. Reuter recorded this species as a variety of *Paracalocoris scrupeus* Say in 1909 (Neark. Capsiden, p. 39). I have in my collection a specimen from Delaware Water Gap, Pa., determined for me by Dr. Reuter in 1908 as "*P. scrupeus v. externus* H. S.," and it was so entered in my Check List of 1906 and in my Catalogue of 1917. I possess a second specimen taken by me at Salamanca, N. Y., July 24, 1912. While not a "rediscovery" Dr. Knight's notes are most valuable in giving this form specific standing.—E. P. Van Duzee.